ENERGY POLICY UPDATE

APRIL 14, 2015

The Energy Policy Update Electronic Newsletter is published by the Arizona Governor's Office Of Energy Policy and is provided free of charge to the public. It contains verbatim excerpts from international, domestic energy, and environment-related publications that are reviewed by Community Outreach Personnel. For inquiries, call 602-771-1143 or toll free to 800-352-5499. To register to receive this newsletter electronically or to unsubscribe, email Gloria Castro.

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U.S. Dept. of Energy Tribal Renewable Energy Webinar Series

U.S. Dept. of Energy Webinars

Like our Facebook page! Learn more about energy in Arizona, get daily posts on a variety of energy topics and use the Comment Section to tell us what you think or ask questions of our energy experts.

The Arizona Republic now has limited access. As such, links may or may not work.

ARIZONA-RELATED

APS, Solar Leasing Companies Debate Growth of Solar

[Az Republic, Apr. 10] A key issue in the debate over Arizona Public Service Co. and its request to sharply increase fees for new solar customers is how fast solar is growing in its territory. Rooftop solar leasing companies oppose the increase to $21 a month from about $5 a month, saying the $5 average fee added in 2014 has slowed down installations. APS argues solar is growing despite the small fee, which was much less than the $50 a month APS proposed at the time. The solar leasing companies are having a difficult time explaining why fees are bad for the industry, as the industry is growing with them in place. The rooftop leasing companies' group Tell Utilities Solar won't be Killed issued a news release to debunk the figures presented by APS. The utility regulators at the Arizona Corporation Commission require the figures to be publicly disclosed via the website arizonagoessolar.org, where a spreadsheet with the most current figures can be downloaded and filtered to review a particular year. APS likes to use the number of customers who actually installed solar in 2014 to show that even after the $5 fee went into effect on Jan. 1 that year, 7,860 residential customers installed solar, an 11 percent increase from the 7,072 who installed solar in 2013. TUSK says the number of people who applied to APS to hook up solar is a more appropriate figure than the number who actually installed it. In 2014, APS had 8,249 customers apply for solar connections, which was down about 10 percent from 9,206 in 2013. To recap: In 2014, the number of APS customers who applied to install solar was down, but the number who installed solar was up.

Does Your Home Make the Energy-Efficiency Grade?

[Az Republic, Apr. 10] Your West Valley home: Is it a high-performer or an under-achiever? An A, C or fail? A builder may say that your new home equals or surpasses energy-efficiency standards, and you might believe that, but one of the best ways to ensure this is through a third-party-verified HERS (Home Energy Rating System) score. Introduced in 2006, HERS is the national standard by which a home's energy efficiency is measured. Essentially, it's a checklist for a third-party auditor who will inspect areas of your home such as the walls, floors, ceilings, roof, windows, doors and the HVAC system. The final tally is a numerical "green" snapshot of your home, telling you what energy-savings features you have and which ones you might acquire for greater savings. These include a complete thermal enclosure system with comprehensive air sealing, quality-installed insulation, and high-performance windows, such as low-e, dual or triple pane; a high-efficiency HVAC system with a SEER (Seasonal Energy Efficiency Ratio) of 14 or higher for optimal performance; a comprehensive water management system to protect roofs, walls, and foundations from moisture damage; and energy-efficient lighting and appliances, each carrying the Energy Star tag as designated by the Environmental Protection Agency.

Love's Travel Stops To Add CNG to New Station in Arizona

[NGB America News, APR. 10] Love's travel stops opened a new location in Williams, Arizona, located on interstate 40. Love's will be adding fast-fill CNG fueling lanes to the new station later this year. "Love's is committed to serving professional drivers and this location fills a gap in love's network of locations in Arizona and along interstate 40," said Greg Love, Co-CEO of love's. The 12,000 sq. Ft. Facility gives professional drivers access to a variety of products and driver services 24 hours a day, seven days a week. The location will also add ninety-one additional truck-parking spaces along interstate 40 in Arizona.

2015 UPCOMING EVENTS

Solar Summit 2015
Apr. 14-16 Phoenix, AZ

Tribal Economic Development in the Southwest Conference
Apr. 16-17 Albuquerque, NM

Tribes and the New Energy Economy Conference
Apr. 22-23 Albuquerque, NM

Utility Solar Conference
Apr. 27-29 San Diego, CA

CxENERGY 2015 Conference & Expo
Apr. 27-30 Las Vegas, NV

16th Peak Load Management Alliance Spring Conference
Apr. 28-29 Tucson, AZ

Alternative Clean Transportation (ACT) Expo
May 4-7 Dallas, TX

NARUC Utility Rate School - Western
May 11-15 San Diego, CA

2015 Energy Symposium
May 12-14 Monterey, CA

NASEO 2015 West Regional Meeting
May 14-15 Portland, OR

Solar Power Generation Mexico
May 19-20
World Trade Center, Mexico

Better Buildings Summit
May 27-29 Washington, DC

Energy Efficiency Finance Forum
May 31-Jun. 2 San Francisco, CA

Industrial Energy Tech. Conference 2015
Jun. 2-5 New Orleans, LA

33rd West Coast Energy Mgmt. Congress
Jun. 3-4 Long Beach, CA

McCain, Flake Amendment Puts Border-To-Border Interstate 11 into Motion
[Phoenix Business Journal, Mar. 30] The CanaMex Interstate 11 freeway study corridor has officially been extended from Wickenburg to Nogales. U.S. Sens. John McCain and Jeff Flake, both R-Ariz., added the corridor extension to the Intermountain West Corridor Development Act of 2015. The extension takes the freeway's corridor – no specific route is designated – and extends it from Wickenburg through the Buckeye-Tonopah area, south through Tucson to Nogales. The Arizona extension is only part of the efforts to create an international trade route, sometimes called the "CanaMex Highway," from Mexico to Canada. The federal act also extended the I-11 corridor north from Las Vegas to Reno and northward toward Canada.

Solar Impulse 2 Heading to Phoenix on Global Flight
[Az Republic, Apr. 10] The Solar Impulse 2, a plane that is circumnavigating the globe without a drop of fuel, is making Phoenix one of its 12 stops around the world. The aircraft's pilots say they are trying to change the world by flying around it in a plane powered by the sun's energy. Their message is that if the Solar Impulse 2, with a weight equal to a midsize car's and a wing span equal to a 747's, can travel 22,000 miles without fuel, then so can many machines. "We believe that renewable energies are a source of social cohesion, prosperity and peace," Solar Impulse 2 pilots and co-founders Bertrand Piccard and Andre Borschberg said in a joint statement. The flight is part of the pilots' #FutureIsClean movement, an initiative intended to gather worldwide support for the use of clean energy. Depending on the weather — the crew was in China the week of April 11 waiting for high-altitude clouds to disperse — the plane is tentatively scheduled to arrive in Phoenix in May and to stay about three days. The pilots plan to speak to groups about renewable energy, and specifics on festivities will be available closer to arrival time, said Peter Lafford, an Arizona State University academic computing professional.

SRP Price Corridor Transmission Line Moves Closer To Turn On
[Phoenix Business Journal, Apr. 9] Powering the Price Corridor across Gila River Indian Community lands has been approved by the Arizona Power Plant and Transmission Line Siting Committee. The group issued a Certificate of Environmental Compatibility to Salt River Project for the proposed Price Road Corridor 230-kilovolt transmission line. The Siting Committee reached its decision following three days of testimony, discussion and public comment. Final approval is anticipated from the Arizona Corporation Commission within 30 to 60 days. The project includes new overhead 230-kilovolt power lines and two new 230kV substations that will provide capacity to meet the projected economic growth of the area in Chandler known as the Price Road Corridor. SRP is working with the Gila River Indian Community to finalize a route on tribal land and many key milestones in that process have been completed. This route would allow the majority of the project's new overhead transmission lines to be located on tribal land.

ALTERNATIVE ENERGY & EFFICIENCY

Freightliner Supertruck Hauls Goods, Sips Fuel
[Fox News, Mar. 26] Freightliner has unveiled the result of its SuperTruck project, and it lives up to the name. The tractor-trailer was developed in partnership with a five-year, $115 million Department of Energy program that challenged truck makers to improve big rig fuel economy by at least 50 percent, and match the funding by the same amount. Freightliner did that, and more. Its loaded 65,000-pound semi returned 12.2 mpg during a real world highway test, 115 percent better than the average truck on the road today. The SuperTruck features a hybrid drivetrain with an 11-liter diesel engine and electric motor. Most of its accessories, including the air conditioning are run off the battery, instead of belts attached to the engine. There's a waste heat recovery system that uses the exhaust to generate additional electricity by boiling water like a power plant, and solar panels on the roof of the trailer that can fully run its climate control system on a sunny day. The computer-controlled transmission is connected to the navigation system and can plan its shifts ahead of changes in the terrain, even shifting into neutral to coast under certain circumstances, like when it's cresting a hill. On the way down, the electric motor helps slow the truck down and charge the battery.

Nation's First Federal Combined Solar Power Purchase Launched by EPA, Forest Service, Energy Department and GSA
[EPA.gov, Apr. 8] SAN FRANCISCO – The U.S. Environmental Protection Agency, U.S. Forest Service, Department of Energy and General Services Administration announced the first ever federal partnership to purchase solar power. This action follows President Obama's order last

National Geothermal Summit
Jun. 3-4, Reno, NV

14th Annual Small Business Forum & Expo
Jun. 16-18 Phoenix, AZ

ASHRAE Annual Conference
Jun. 27-Jul.1 Atlanta, GA

ACEEE Summer Study on Energy Efficiency in Industry
Aug. 4-6 Buffalo, NY

Energy Efficiency Exchange: Federal Training & Knowledge
Aug. 11-13 Phoenix, AZ

Solar Power Int'l. 2015
Sep. 14-17 Anaheim, CA

2015 North American NGV Conference & Expo
Sep. 15-17 Denver, CO

ACEEE National Conference on Energy Efficiency as a Resource
Sep. 20-22 Little Rock, AR

World Energy Engineering Congress (WEEC)
Sep. 30-Oct. 2 2015
Orlando, FL

Greenbuild Int'l. Conference & Expo
Nov. 18-20 Washington, DC

Renewable Energy World Conference & Expo
Dec. 8-10 Las Vegas, NV

ASU Sustainability Series Events

Green Building Lecture Series
Scottsdale, AZ

month requiring federal agencies to cut their greenhouse gas emissions by 40 percent and increase their renewable energy use to at least 30 percent over the next 10 years. The federal government is the single largest energy consumer in the nation. Government-wide, the electricity bill is $5 billion a year, paying for 57 billion kilowatt-hours of electricity in nearly 500,000 buildings. As Executive Order 13693, Planning for Federal Sustainability in the Next Decade, is implemented, the annual savings are estimated to be almost $1 billion in avoided energy costs. The Federal Aggregated Solar Procurement Project (or FASPP) is a contract solicitation designed to take advantage of economies of scale in solar installation. Due to contracting challenges and high costs, agencies have made limited progress installing solar systems. Agencies in the FASPP will use the same contract solicitation and contractor for greater efficiency and cost effectiveness, and third-party financing to cover upfront costs. The project includes nine federal sites in San Jose, Menlo Park, Sacramento, San Francisco, San Bruno, Santa Rosa, Carson City and Reno, and the Forest Service regional office at Mare Island. Initially, the project will produce up to 5 megawatts of solar power across multiple federal sites in California and Nevada.

New York Plans Upgrades for Housing Projects to Reduce Emissions and Utility Costs
[New York Times, Apr. 9] New York City's public housing projects are set to undertake a large-scale energy saving program to try to cut down on both greenhouse gas emissions and a utility bill that now reaches $576 million a year. Mayor Bill de Blasio, along with Julián Castro, secretary of the federal Department of Housing and Urban Development, announced on Thursday a plan to install $100 million worth of alterations and improvements to make buildings in some 300 public housing developments more efficient. The measures will start at 89 housing projects with 87,000 apartments, with the replacement of old boilers and lighting but could become more ambitious — perhaps even including solar panels — as utility savings are achieved, city officials said. "Anything that works is on the table," Mr. de Blasio said. The New York City Housing Authority, known as Nycha, has more than 400,000 residents and more than 178,000 apartments. Under the plan, the agency will solicit bids from private companies that would be paid to perform the upgrades. The energy savings would pay for loans the authority would take out to finance the work and for more investment in the program. Energy experts say the program gives the city an incentive it does not get now because the federal housing agency, which picks up the utility bills of public housing, would normally keep any energy savings. In this program, the city's housing authority can keep the money saved and reinvest it.

SolarCity and Nest Partner to Make Cost Savings Even Easier for Homeowners
New California customers who go solar with SolarCity can receive a Nest Learning Thermostat at no additional cost; SolarCity's technology platform will work with Nest to strengthen solar integration capabilities
[Global Newswire, Apr. 13] San Mateo, CA – SolarCity® SCTY, -2.23% America's #1 solar power provider, today announced a partnership with Nest Labs, creator of the Nest Learning Thermostat™, to make saving money on energy even easier for customers. Beginning today, the first 10,000 new customers in California who sign up with SolarCity will receive a Nest Thermostat installed at no additional cost. To qualify, customers must have a compatible air conditioning system and agree to connect their Nest Thermostat to SolarCity as part of the Works with Nest program. This special offer combines two home energy solutions that can cut power bills as well as homeowners' carbon footprint, and allows homeowners to experience these benefits with one easy package through SolarCity. SolarCity, which provides more than one out of every three new solar power systems in the U.S. 1, can make it possible for homeowners to install a solar system at no upfront cost and pay a lower rate for solar electricity than they pay for utility power. The Nest Thermostat can program itself – it remembers what temperatures homeowners like, creates a custom schedule for the home and automatically turns itself down when homeowners are away. Results from three recent energy-savings studies show that on average, Nest can save customers about 10 to 12 percent on their heating bills and 15 percent on their cooling bills. This translates to an estimated average savings of $131 to $145 a year with the Nest Thermostat alone, and combined with affordable solar power from SolarCity, customers can save hundreds more each year.

The U.S. Department of Energy Announces Competition, "SunShot Prize: Race to 7-Day Solar"
[NASEO, Apr. 9] Sponsored by the U.S. Department of Energy SunShot Initiative, the SunShot Prize: Race to 7-Day Solar aims to motivate local governments, communities, solar companies and electric utilities to collaborate towards improving the "going solar" experience from permit to plug-in for all Americans. This competition offers a total of $10 million in cash awards to the best teams that bring process certainty and reduce the permit to plug-in time from current

durations to a swift seven days for small PV systems (≤100 kW) or seven weeks for large systems (≤1 MW). SunShot will provide seed funding to help support up to 20 teams during a set 18-month performance period that begins in September 2015. Click for More Information

Washington, D.C. Takes No. 1 Spot on EPA's Energy Star Top Cities List

[EPA.gov, Mar. 25] WASHINGTON – Today, the U.S. Environmental Protection Agency (EPA) released its seventh-annual list of the top 25 U.S. metropolitan areas with the most Energy Star certified buildings in 2014. This year, Washington, D.C., debuts in the top spot with 480 buildings. EPA's Energy Star Top Cities list shows how cities across America, with help from Energy Star, are embracing energy efficiency as an effective way to save money and reduce greenhouse gas emissions that fuel climate change. "Cities across the country are saving billions every year through partnering with our Energy Star program and increasing energy efficiency, while doing their part to reduce harmful greenhouse gas emissions that fuel climate change," said EPA Administrator Gina McCarthy. "This is the type of leadership we need from city leaders and building owners who are demonstrating that increasing energy efficiency strengthens local economies, reduces greenhouse gas emissions, and helps preserve a healthy planet for future generations." More than 25,000 buildings across America have earned EPA's Energy Star certification since 1999. The buildings have saved nearly $3.4 billion on utility bills and prevented greenhouse gas emissions equal to the emissions from the annual electricity use of nearly 2.4 million homes.

ENERGY/GENERAL

Clean Energy Spending Drops 15 Percent to Reach Lowest Level Since 2013

[Renewable Energy World, Apr. 10] NEW YORK – Global investment in clean energy slumped 15 percent in the first quarter to the lowest level in two years because of a decline in wind and utility-scale projects. About $50.5 billion was invested in the first three months of 2015, the least since the first quarter of 2013 when spending on clean energy totaled $43.1 billion, according to research released Friday by Bloomberg New Energy Finance. The figure a year earlier was $59.3 billion. The rising U.S. dollar stifled spending, and nations that previously spent big invested less, the London-based research company said. The key question for clean energy was how much it would be affected by slumping oil prices, and "these figures indicate the answer is not so much," Michael Liebreich, chairman of the company's advisory board, said in a statement. Discounting the effects of currency variations and some large offshore wind investments in 2014, clean-energy spending "this year would have been pretty much level-pegging with last year," Liebreich said. Investors, executives and policy makers will debate these trends at the Bloomberg New Energy Finance conference in New York starting Monday. First-quarter spending in Europe dropped 30 percent to $9.7 billion from a year earlier. Investment fell 24 percent to $11 billion in China and tumbled 62 percent to $1.1 billion in Brazil.

Utility Sales May Drop by Half as Homes Make Their Own Power

[Bloomberg, Apr. 6] Utilities in the U.S. Northeast stand to lose as much as half of residential sales by 2030 as customers install solar and battery-storage systems and generate their own power, according to a report by the Rocky Mountain Institute. Residential and commercial customers who opt for alternatives to traditional, utility-supplied electricity could erode power sales in the region by as much as $34.8 billion, the Snowmass, Colorado-based energy consultant said in the report released Tuesday. Fewer kilowatt-hours sold to customers also will affect utilities' abilities to raise the estimated $2 trillion that needs to be spent to maintain power grids between 2010 and 2030. A drop in the cost of solar panels and new leasing programs that offer installation with no upfront customer payments has led to a boom in U.S. rooftop systems, which have climbed more than 50 percent annually during the past three years. Utilities in some states have sought added fees from customers who generate their own power, saying the funds will support a grid to which users sell excess supply and upon which they rely when their own systems aren't available.

INDUSTRIES AND TECHNOLOGIES

Aluminum Battery Offers Safe Alternative to Conventional Batteries

[R&D, Apr. 6] Stanford scientists have invented a flexible, high-performance aluminum battery that charges in about 1 minute. ImagE: Mark Shwartz, Precourt Institute for Energy, Stanford Univ.Stanford Univ. scientists have invented the first high-performance aluminum battery that's fast-charging, long-lasting and inexpensive. Researchers say the new technology offers a safe

alternative to many commercial batteries in wide use today. "We have developed a rechargeable aluminum battery that may replace existing storage devices, such as alkaline batteries, which are bad for the environment, and lithium-ion batteries, which occasionally burst into flames," said Hongjie Dai, a professor of chemistry at Stanford. "Our new battery won't catch fire, even if you drill through it." Dai and his colleagues describe their novel aluminum-ion battery in *Nature*. Aluminum has long been an attractive material for batteries, mainly because of its low cost, low flammability and high-charge storage capacity. For decades, researchers have tried unsuccessfully to develop a commercially viable aluminum-ion battery. A key challenge has been finding materials capable of producing sufficient voltage after repeated cycles of charging and discharging.

Big Data Technology Finds Ideal River Locations To Generate Hydro-Power

[Phys.org, Apr. 14] A software app developed collaboratively by the University of Leicester and High Efficiency Heating UK Ltd. automatically selects appropriate locations in UK rivers to site a large range of micro renewable hydro-power turbines in UK rivers and determines the environmental sensitivity of the location. This innovative prototype software saves thousands of pounds in initial survey costs: saves time and paper work, by making use of free publicly available data sourced from satellites to pinpoint the best locations in Britain's rivers for sourcing energy. The news comes as the University of Leicester prepares to showcase its partnerships with industry at the first Innovate UK-funded Venturefest to be held in the East Midlands at the East Midlands Conference Centre, Nottingham (Tuesday 14 April). Experts claim the technology has the power to shake up the micro hydropower industry.

Community Resilience Microgrids Breaking New Ground

[Fierce Energy, Apr. 8] Virtually all microgrids share the goal of improving grid resilience, but community resilience microgrids (CRM) -- specifically designed to promote grid resilience within communities -- are being driven by specific government programs, providing funding and regulatory support -- which is a major factor that will promote the spread of CRMs in the coming years. In many cases, this is a necessity for this specific microgrid segment, Navigant says, because CRMs are forging new ground when it comes to customer relationships to host distribution -- and challenges abound. Among those challenges are regulatory complexity due to mixed customer classes; issues of customer equity, especially when utilities are involved with providing CRM services; lack of grid resilience metrics and values; and financing challenges that are unique to community-scale projects. Despite the obstacles, Navigant says the CRM market still wrought with possibilities. In fact, Navigant Research predicts global CRM implementation revenue to grow from $162.9 million in 2015 to $1.4 billion by 2024.

Energy Department To Spend $200 Million on New Supercomputer

[Associated Press, Apr. 9] CHICAGO — The U.S. Department of Energy announced Thursday that it will give Argonne National Laboratory $200 million to make the Chicago-area home to a high-performance supercomputer that is five to seven times faster than current top supercomputers. "The Aurora supercomputer will advance low-carbon energy technologies and our fundamental understanding of the universe," Undersecretary for Science and Energy Lynn Orr said in a statement. Aurora will be available for scientific use in 2019 and use Intel Corp. system framework. The goal is to build a supercomputer that will help the U.S. compete internationally with other next-generation computing efforts and ensure the United States' economic and national security, agency officials said. The agency said Aurora specifically will be able to help develop materials that will lead to more powerful and efficient batteries and solar panels. Its other research areas include biological science, transportation and renewable energy.

Washington Blackout Highlighted Aging Electrical Grid

[Reuters, Apr. 9] WASHINGTON — The fact that a severed transmission line in Maryland could cut power to much of the nation's capital became the latest warning sign that the country's aging electrical grid can't meet modern demands. Tuesday's widespread power outage came just weeks before the Department of Energy (DOE) is expected to release recommendations for modernizing the country’s electricity infrastructure. The department recently spearheaded a 15-month review that examined the country’s energy transmission, storage, and distribution infrastructure. The U.S. electrical grid, designed to serve far fewer people than it does today, faces a range of challenges that were unanticipated when it was built, including threats of cyber attacks, a need to incorporate power from renewable energy sources and the likelihood of more frequent and severe storms as a result of climate change. Among the improvements the DOE may recommend are boosting the system’s ability to store electricity for use at peak

times, increasing the use of real-time data to respond faster to outages, and making the grid better able to operate seamlessly with a mix of conventional fuels such as natural gas and the more intermittent energy of renewables such as solar or wind. All those changes would require massive – and expensive – upgrades of the existing transmission system.

LEGISLATION AND REGULATION

EPA Settles Lawsuit Over Ethanol Mandate

[The Hill, Apr. 10] The Environmental Protection Agency (EPA) has settled an oil industry lawsuit and agreed to set the ethanol blending mandates for this year and last year by Nov. 30. The 2014 mandate under the Renewable Fuel Standard will be two years late and this year's will be one year late. But with an end to the delays finally in sight, the settlement ends a dispute that angered both the oil industry and ethanol producers. "This schedule is consistent with EPA's commitment to get the RFS program back on track, while providing certainty to renewable fuels markets and promoting the long-term growth of renewable fuels," the agency said in a statement. "Our goal is to provide the market with the certainty it needs to continue to grow renewable fuel volumes," Christopher Grundler, director of the EPA's office of transportation and air quality, told reporters Friday. The settlement does not require the agency to set the volumes at any particular level. The agreement is still subject to a 30-day public comment period and approval by a federal court. Friday's announcement ends lawsuits filed by the American Petroleum Institute (API) and American Fuel and Petrochemical Manufacturers (AFPM) over the EPA's delays, which they said force refiners to guess how much ethanol to blend into their products before the agency decides a retroactive mandate. The Renewable Fuel Standard requires that fuel refiners mix a certain volume of ethanol into gasoline and biodiesel into diesel each year.

Regulators Tighten Rules for Offshore Drillers

[The Hill, Apr. 13] Federal regulators are proposing a regulation to improve a piece of offshore drilling equipment, five years after the Deepwater Horizon oil spill raised questions about safety. The new standards unveiled Monday target blowout preventers, which serve as an emergency backup to stop oil and natural gas disasters like the one in 2010 at a BP well in the Gulf of Mexico. The standards are the most significant response yet to the 2010 incident, which started with a well blowout on the sea floor, killed 11 workers and resulted in an 87-day spill that was one of the worst environmental disasters in American history.

Senators Schatz and Heinrich Introduce PREPARE Act - Endorsed By NASEO

[NASEO, Mar. 26] On March 26, U.S. Senator Brian Schatz (D-HI) and U.S. Senator Martin Heinrich (D-NM) introduced the PREPARE Act — Promoting Regional Energy Partnerships for Advancing Resilient Energy Systems Act — legislation that would help states modernize energy systems to make them cleaner, more efficient, cost-effective, reliable, and resilient. "In Hawai'i, we were able to work collaboratively with the Department of Energy and business and community leaders to develop an energy strategy that has increased clean energy production," said Senator Schatz. "Hawai'i serves as a model, and our bill will empower the Energy Department to give other states and regions the tools they need to modernize their energy infrastructure and build a cleaner, more resilient system." "This bill provides an opportunity for states to collaborate on regional approaches for cleaner power generation and transmission -- which are critical to reducing carbon pollution and keeping prices low for consumers," said Senator Heinrich. "New Mexico has a unique role to play in coordinating and siting significant new generation and transmission infrastructure that will be essential for diversifying and growing our economy. This type of regional collaboration will benefit New Mexico's rapidly transforming energy sector." With an aging U.S. energy infrastructure in need of replacement and growing challenges to grid security, the PREPARE Act authorizes the U.S. Department of Energy (DOE) to enter into regional cooperative agreements with states to provide support and funding that will help them develop strategies and plans that address the unique energy needs of the region.

WESTERN POWER

California's New Era of Heat Destroys All Previous Records

Sadly, this is only the beginning

[Bloomberg, Apr. 10] The California heat of the past 12 months is like nothing ever seen in records going back to 1895. The 12 months before that were similarly without precedent. And the 12 months before that? A freakishly hot year, too. What's happening in California right now

is shattering modern temperature measurements—as well as tree-ring records that stretch back more than 1,000 years. It's no longer just a record-hot month or a record-hot year that California faces. It's a stack of broken records leading to the worst drought that's ever beset the Golden State. The chart below shows average temperatures for the 12 months through March 31, for each year going back to 1895. The orange line shows the trend rising roughly 0.2 degrees Fahrenheit per decade, just a bit faster than the warming trend observed worldwide. The California heat of the past 12 months is like nothing ever seen in records going back to 1895. The 12 months before that were similarly without precedent. And the 12 months before that? A freakishly hot year, too. What's happening in California right now is shattering modern temperature measurements—as well as tree-ring records that stretch back more than 1,000 years. It's no longer just a record-hot month or a record-hot year that California faces. It's a stack of broken records leading to the worst drought that's ever beset the Golden State. The chart below shows average temperatures for the 12 months through March 31, for each year going back to 1895. The orange line shows the trend rising roughly 0.2 degrees Fahrenheit per decade, just a bit faster than the warming trend observed worldwide. The last 12 months were a full 4.5 degrees Fahrenheit (2.5 Celsius) above the 20th century average. Doesn't sound like much? When measuring average temperatures, day and night, over extended periods of time, it's extraordinary. On a planetary scale, just 2.2 degrees Fahrenheit is what separates the hottest year ever recorded (2014) from the coldest (1911). California's drought has already withered pastures and forced farmers to uproot orchards and fallow farmland. It's costing the state billions each year that it goes on. Governor Jerry Brown issued an executive order this month for the first mandatory statewide water restrictions in U.S. history, with $10,000-a-day penalties against water agencies that fail to reduce water use by 25 percent.

Colorado's Big Coal-Burning Utilities Take A Turn To Renewable Energy

[Gov's. Wind Energy Coalition, Apr. 3] Most of the electricity produced in Colorado still comes from burning coal, but even the state's two largest coal burners are adding more renewable energy. The Tri-State Generation and Transmission Association and Platte River Power Authority each recently announced plans for new renewable energy sources. "We've seen the prices dropping, and we've been able to add these renewable energy projects," said Lee Boughey, a spokesman for Westminster-based Tri-State. Tri-State announced this month that it would add a 150-megawatt wind farm in Kit Carson County. Platte River Power, based in Fort Collins, is set to add a 22-megawatt solar installation near Wellington. "Their recent investments in wind and solar represent real progress and are important steps toward diversifying their power supplies," said John Nielsen, energy program director at the environmental group Western Resource Advocates. Colorado has a Renewable Energy Standard that requires investor-owned utilities to get 30 percent of their electricity from renewable sources by 2020.

Oncor Launches Paradigm-Breaking Microgrid in Texas

[Renewable Energy World, Apr. 13] The nature, shape and form of an emerging 21st century model for U.S. electric utilities is now on display outside the town of Lancaster, Texas. It's there, in a comparatively remote area of southwestern Dallas County that Texas electric utility Oncor and smart grid specialists S&C Electric and Schneider Electric have assembled a "proof of concept" version of what they contend is "one of the most advanced microgrids in North America. "Engineered to maximize newly installed energy storage, renewable generation and improve reliability," the smart microgrid now up and running at Oncor's System Operating Services Facility (SOSF) encompasses four interconnected microgrids that make use of nine different distributed generation sources. These include two solar PV arrays, a microturbine, two energy storage units and four [diesel] generators," S&C explains in a press release. Oncor's smart microgrid highlights the speed at which innovative companies and new energy technologies are shaking up the highly regulated U.S. power industry and markets. "Breaking the mold" that has come to define "culture" among U.S. utilities, Oncor is betting that the mix of innovative renewable and conventional energy generation, energy storage and distribution technology it has introduced will help blaze the trail towards an organizational, regulatory and industry-wide transformation.

SoCalGas Launches Power-To-Gas Project Tests

[L.A. Biz, Apr. 13] Southern California Gas Co. is launching demonstration projects to create and test a power-to-gas system to provide a large-scale, cost-effective way to store excess energy produced from renewable sources. SoCalGas has partnered with the Energy Department's National Renewable Energy Laboratory (NREL) and the National Fuel Cell

Research Center (NFCRC) on the projects, the first-ever in the United States. Using electrolyzer-based methods, the power-to-gas concept uses electricity from renewable sources, such as solar and wind power, to make carbon-free hydrogen gas by breaking down water into hydrogen and oxygen. The hydrogen can then be converted to synthetic, renewable methane — traditional natural gas — and stored to meet future energy needs. It can also be used as a multi-purpose energy source for vehicles, micro-turbines, fuel cells or other equipment.

Three New Solar Energy Plants Are Coming to Utah

Sunedison Is Moving Forward with Solar Projects in Utah That Will Total to 262 MW.

SunEdison, the global leader in solar electricity power systems, recently announced that it has signed agreements to build and install three utility-scale solar energy plants in Iron County, located in southern Utah, and these new plants will have a combined total capacity of 262 megawatts (MW). The electricity produced by the solar power plants will be purchased by PacifiCorp. PacifiCorp, an electric utility, which serves 1.8 million industrial, commercial, and residential customers, will purchase the electricity from these three solar plants via three 20-year power purchase agreements, which it is required to do under the federal Public Utilities Regulatory Policies Act. The Utah Public Service Commission still needs to approve the purchase agreements contract to guarantee fair cost for the utility's customers. Rocky Mountain Power, a division of PacifiCorp, will be purchasing the electricity that is produced by another SunEdison project in Utah known as the Seven Sisters project. The 22.6 MW Seven Sisters project includes seven separate solar power plants (four located in Beaver County and three in Iron County), and Rocky Mountain power will purchase the electricity generated by these plants under seven separate 20-power purchase agreements.

ARIZONA STATE INCENTIVES/POLICIES

ARIZONA COMMERCE AUTHORITY (ACA)

- **INCENTIVES**

  Arizona has lowered taxes, streamlined regulations, and established a suite of incentives to support corporate growth and expansion. The Arizona Competitiveness Package, groundbreaking legislation adopted in 2011, makes it easier for existing Arizona companies to prosper and establishes Arizona as one of the most desirable places for expanding companies to do business. Give your company a competitive edge by utilizing Arizona's incentives.

  - Job Training
  - Quality Jobs
  - Qualified Facility
  - Computer Data Center Program
  - Research & Development
  - Foreign Trade Zone
  - Military Reuse Zone
  - Angel Investment
  - Renewable Energy Tax Incentive
  - Healthy Forest
  - Sales Tax Exemption for Machinery and Equipment
  - Lease Excise
  - Additional Depreciation
  - Work Opportunity
  - Commercial/Industrial Solar
  - SBIR/STTR
  - Private Activity Bonds
  - QECB's

- **(ACA) PROGRAMS**

- **DATABASE OF STATE INCENTIVES FOR RENEWABLES & EFFICIENCY (DSIRE)**

  - Arizona Incentives/Policies
  - Federal Incentives/Policies
  - Solar Policy News

  The DSIRE website provides summaries of current solar policy developments and an archive of past solar policy developments. Current solar news appears below the news archive, which is searchable by several criteria.

GRANTS

Students – Geothermal Resources Council (GRC) – The GRC presents news and information for students in the global geothermal community. There are some great opportunities for student scholarships in geothermal. For more information, visit the link below. You will find "Scholarships" half way down the page.

Website: http://www.geothermal.org/students.html
The following solicitations are now available:
(Click on title to view solicitation)

- Planning Program and Local Technical Assistance Program (EDAPLANNING2012)– Applications Accepted on a Continuous Basis
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- National Facilities Program (PD-05-1743) - Applications Accepted on a Continuous Basis
- Environmental Quality Incentive Program – Applications Accepted on a Continuous Basis
- American Indian Air Quality Training Program (EPA-OAR-IO-15-03) – Applications
- Agriculture and Food Research Initiative - Water for Agriculture Challenge Area (USDA-NIFA-AFRI-004918) – Letters of Intent due April 9, 2015
- DUE SOON! Scholarship and Fellowship Education (NRC-HQ-84-15-FOA-0001) – Applications due April 17, 2015
- DUE SOON! U.S. Wind Manufacturing: Larger Blades to Access Greater Wind Resources and Lower Costs (DE-FOA-0001214) – Concept Papers due April 17, 2015
- Faculty Development Grant (NRC-HQ-84-15-FOA-0002) – Applications due April 20, 2015
- DUE SOON! Trade School and Community College Scholarship Grant (NRC-HQ-84-15-FOA-0003) – Applications due April 20, 2015
- DUE SOON! Near Zero Power RF and Sensor Operations (DARPA-BAA-15-14) – Applications due April 23, 2015
- Solar Powering America by Recognizing Communities (SPARC)
  Funding Number: DE-FOA-0001241 – Concept Paper Submission Deadline: 3/5/2015 5:00 PM ET; Full Application Submission Deadline:4/27/2015 5:00 PM ET;
  Webinar Information: Date: February 18, 2015 Time: 4:00pm Eastern
  Register here: https://attendee.gotowebinar.com/register/3005409845756656642
- Market Development Cooperator Program 2015 (ITA-INA-OPCM-2015-2004375) – Applications due April 27, 2015
- Desalination and Water Purification Research and Development (DWPR) (R15AS00019) – Application Due Date: 4/27/2015
- Desalination and Water Purification Research and Development (DWPR) Pilot (R15AS00021) – Application Due Date: 4/27/2015
- American Apprenticeship Initiative (FOA-ETA-15-02) – Application Due Date: 4/30/2015
- The Resilient Electricity Delivery Infrastructure (REDI) Initiative (DE-FOA-0001219) – Application Due Date: 5/04/2014

- NEW-DUE SOON! Natural Gas Pilot Demonstration Project – Applications due May 7, 2015
- 2015 Federal-State Marketing Improvement Program (USDA-AMS-FSMIP-2015) – Applications due May 14, 2015
- NEW! Fiscal Year 2015 Pollution Prevention Grant Program (EPA-HQ-OPPT-2015-002) – Applications due May 14, 2015
- Recuperator Technology Development and Assessment for Supercritical Carbon Dioxide (SCO2) Based Power Cycles – Applications due May 15, 2015
- NEW! Tribal Pesticide Program Council (TPPC) Technical Support Grant (EPA-OPP-2015-002) – Applications due May 21, 2015
- NEW! Fiscal Year 2015 Pollution Prevention Information Network (PPIN) Grant Program (EPA-HQ-OPPT-2015-001) - Applications due May 22, 2015
- Flexible Hybrid Electronics Manufacturing Innovation Institute Grant (BAA-RQKM-2015-0014) – Applications due 5/29/2015
- Economic Development Assistance Programs (EDAP2015) – Applications due June 15, 2015
- Presidential Awards for Excellence in Science, Mathematics and Engineering Mentoring Grant (NSF 15-551) – Applications due June 19, 2015
- NEW! Tribal Energy Development Capacity Grants (BIA-TEDC-15-FA-0002) – Applications due June 19, 2015
- NEW! Energy and Mineral Development Grants (BIA-15-FA-0001) – Applications due June 23, 2015
- Land and Water Conservation Fund State and Local Assistance Program – Application Due Date: 08/11/2015
- Decision, Risk and Management Sciences (PD-98-1321) - Applications due August 18, 2015
- Advanced Frontiers in Renewable Hydrogen Fuel Production via Solar Water Splitting Technologies – Letter of Intent due 10/7/2015
- Thermal Transport Processed (PD-14-1406) – Application due 10/20/2015
- Energy for Sustainability (PD-14-7644) – Applications due October 20, 2015
- Biotechnology, Biochemical, and Biomass Engineering (PD-14-1491) - Applications due October 20, 2015
- Catalysis and Biocatalysis (PD-14-401) - Applications due October 20, 2015
- Energy, Power, and Adaptive Systems (PD-13-7607) –Applications due November 2, 2015
- Landscape Design for Sustainable Bioenergy Systems (DE-FOA-0001179) – Concept Paper due 11/21/2015
- Repowering Assistance Program – Ongoing
- Rural Business Enterprise Grant – Ongoing

- Rural Business Opportunity Grants – Ongoing
- Rural Energy for America Program
- Sunshot Catalyst Prize (DE-FOA-0001126) - Applications Accepted on a Continuous Basis - The U.S. Department of Energy SunShot Catalyst is an open innovation program that allows the public to rapidly create and develop products and solutions that address near-term challenges in the U.S. solar marketplace through prize challenges.
- Sustainable Agriculture Research and Education Grants - Ongoing
- Renewable Energy RFP's - Solicitations for Renewable Energy Generation, Renewable Energy Certificates, and Green Power – Various Deadlines
- U.S. Dept. of Agriculture - Rural Development Grant Assistance
- Green Refinance Plus – Ongoing
- National Science Foundation Funding Opportunities

FEDERAL RESOURCES

- Guide to Federal Financing for Energy Efficiency and Clean Energy Deployment
- Grants.Gov
- FedConnect
- Funding Opportunity Exchange
- Renewable Energy Request for Proposals - Proposal due Dates Vary